

Sub-Add ~~WHAT IS CLAIMED IS:~~

1. A developer carrying member comprising a substrate, and a conductive coat layer that covers the surface of the substrate, wherein;

5 said conductive coat layer contains at least a binder resin and conductive spherical particles having a number average particle diameter of from 0.3 μm to 30 μm and a true density of 3 g/cm^3 or below, dispersed in the binder resin.

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2. The developer carrying member according to claim 1, wherein said conductive spherical particles have a number average particle diameter of from 2 μm to 20 μm .

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3. The developer carrying member according to claim 1, wherein said conductive spherical particles have a true density of from 0.9 g/cm^3 to 2.7 g/cm^3 .

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4. The developer carrying member according to claim 1, wherein said conductive spherical particles have a major axis/minor axis ratio in the range of from 1.0 to 1.5.

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5. The developer carrying member according to claim 1, wherein said conductive spherical particles have a volume resistivity of $10^6 \Omega\cdot\text{cm}$ or below.

6. The developer carrying member according to claim 1, wherein said conductive spherical particles comprise carbon particles.

Sub a3 7. The developer carrying member according to claim 6, wherein the surfaces of said carbon particles are coated with a conductive metal or a conductive metal oxide, or both of them.

10 8. The developer carrying member according to claim 1, wherein said conductive spherical particles comprise particles whose surfaces have been subjected to conductive treatment.

15 9. The developer carrying member according to claim 1, wherein said conductive spherical particles comprise resin particles with conductive fine particles dispersed therein.

Sub a4 20 10. The developer carrying member according to claim 1, wherein said conductive spherical particles further contain a lubricating material in addition to said conductive spherical particles.

25 11. The developer carrying member according to claim 10, wherein said lubricating material comprises a member selected from the group consisting of graphite,

molybdenum disulfide, boron nitride, mica, graphite fluoride, silver-niobium selenide, calcium chloride-graphite, talc, and a fatty acid metal salt.

5 12. The developer carrying member according to
claim 10, wherein said lubricating material has a
number average particle diameter of from 0.2 μm to 20
 μm .

10 ~~15~~ 13. The developer carrying member according to
claim 1, wherein said conductive coat layer has a
volume resistivity of $10^3 \Omega\cdot\text{cm}$ or below.

15 ~~16~~ 14. The developer carrying member according to
claim 1, wherein said conductive coat layer has a
volume resistivity of from $10^3 \Omega\cdot\text{cm}$ to $10^{-2} \Omega\cdot\text{cm}$.

20 ~~17~~ 15. The developer carrying member according to
claim 1, wherein said conductive coat layer further
contains conductive fine particles in addition to said
conductive spherical particles.

sub A5 25 ~~16~~ The developer carrying member according to
claim 15, wherein ~~said conductive fine particles~~
comprises at least one ~~member~~ selected from the group
consisting of carbon black, a metal oxide, a metal and
an inorganic filler.

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~~17.~~ The developer carrying member according to
claim 1, wherein said conductive spherical particles
are contained in the conductive coat layer in an amount
of from 2 parts by weight to 120 parts by weight based
5 on 100 parts by weight of said binder resin.

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~~18.~~ The developer carrying member according to
claim 1, wherein said conductive spherical particles
are contained in the conductive coat layer in an amount
10 of from 2 parts by weight to 80 parts by weight based
on 100 parts by weight of said binder resin.

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~~19.~~ The developer carrying member according to
claim 10, wherein said lubricating material is
15 contained in the conductive coat layer in an amount of
from 5 parts by weight to 120 parts by weight based on
100 parts by weight of said binder resin.

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~~20.~~ The developer carrying member according to
claim 10, wherein said lubricating material is
20 contained in the conductive coat layer in an amount of
from 10 parts by weight to 100 parts by weight based on
100 parts by weight of said binder resin.

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25 ~~21.~~ The developer carrying member according to
claim ~~18.~~ wherein said conductive fine particles are
contained in the conductive coat layer in an amount not

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more than 40 parts by weight based on 100 parts by weight of said binder resin.

Sub A6 22. The developer carrying member according to
5 claim 15, wherein said conductive fine particles are
contained in the conductive coat layer in an amount of
from 2 parts by weight to 35 parts by weight to 100
parts by weight based on 100 parts by weight of said
binder resin.

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23. The developer carrying member according to
claim 1, wherein the surface of said conductive coat
layer has a center-line average height Ra of from 0.2
μm to 4.5 μm.

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24. The developer carrying member according to
claim 1, wherein the surface of said conductive coat
layer has a center-line average height Ra of from 0.4
μm to 3.5 μm.

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~~25.~~ A developing assembly comprising:
a developer container holding a developer; and a
developer carrying member for carrying the developer
held in the developer container and for transporting
25 the developer to the developing zone;
wherein said developer carrying member comprises
a substrate, and a conductive coat layer that covers

Surface
coated
the surface of the substrate, and the conductive coat
layer contains at least a binder resin and conductive
spherical particles having a number average particle
diameter of from 0.3 μm to 30 μm and a true density of
5 3 g/cm³ or below, dispersed in the binder resin.

26. The developing assembly according to claim
25, which further comprises a developer layer thickness
control member for forming a thin layer of the
10 developer on said developer carrying member.

27 *28*
27 *28*. The developing assembly according to claim
26, wherein said developer layer thickness control
member is a magnetic control blade.

15 *29*
27 *28*. The developing assembly according to claim
26, wherein said developer layer thickness control
member is elastically brought into press-contact touch
with said developer carrying member through said
20 developer.

29 *30*
28 *29*. The developing assembly according to claim
28, wherein said developer layer thickness control
member is an elastic control member.

25 *33*
26 *30*. The developing assembly according to claim
25, wherein said developer is a magnetic one component

type developer comprising a magnetic toner.

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~~26~~ 31. The developing assembly according to claim
~~25~~, wherein said developer is a non-magnetic one
5 component type developer comprising a non-magnetic
toner.

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~~26~~ 32. The developing assembly according to claim
~~25~~, wherein said developer is a two component type
10 developer comprising a toner and a carrier.

~~33. The developing assembly according to claim
25, wherein said developer carrying member is the
developer carrying member according to any one of
15 claims 2 to 24.~~

Sub-arr 34. An image forming apparatus comprising:
a latent image bearing member for bearing an
electrostatic latent image, and a developing assembly
20 for developing the electrostatic latent image to form a
developed image;
said developing assembly comprising:
a developer container holding a developer; and
25 a developer carrying member for carrying the
developer held in the developer container and for
transporting the developer to the developing zone;
wherein said developer carrying member comprises

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a substrate, and a conductive coat layer that covers the surface of the substrate, and the conductive coat layer contains at least a binder resin and conductive spherical particles having a number average particle 5 diameter of from 0.3 μm to 30 μm and a true density of 3 g/cm³ or below, dispersed in the binder resin.

35. The image forming apparatus according to claim 34, which further comprises a developer layer 10 thickness control member for forming a thin layer of the developer on said developer carrying member.

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36. The image forming apparatus according to *63* claim *35*, wherein said developer layer thickness 15 control member is a magnetic control blade.

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37. The image forming apparatus according to *63* claim *35*, wherein said developer layer thickness control member is elastically brought into press- 20 contact with said developer carrying member through said developer.

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38. The image forming apparatus according to *65* claim *37*, wherein said developer layer thickness 25 control member is an elastic control member.

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39. The image forming apparatus according to

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claim ~~34~~, wherein said developer is a magnetic one component type developer comprising a magnetic toner.

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5 *40.* The image forming apparatus according to claim ~~34~~, wherein said developer is a non-magnetic one component type developer comprising a non-magnetic toner.

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10 *41.* The image forming apparatus according to claim ~~34~~, wherein said developer is a two component type developer comprising a toner and a carrier.

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15 *42.* The image forming apparatus according to claim ~~34~~, wherein said latent image bearing member is an electrophotographic photosensitive member.

43. The image forming apparatus according to claim 34, which further comprises a transfer means for transferring said developed image to a recording medium.

44. The image forming apparatus according to claim 34, which further comprises a fixing means for fixing said developed image to a recording medium.

25 45. The image forming apparatus according to claim 34, wherein said developer carrying member is the

~~developer carrying member according to any one of claims 2 to 24.~~

Sub A9 46. A process cartridge detachably mountable on a main assembly of an image forming apparatus, comprising:
a latent image bearing member for bearing an electrostatic latent image, and a developing means for developing the electrostatic latent image;
10 said developing means comprising;
a developer; and
a developer carrying member for carrying and transporting the developer to the developing zone;
wherein said developer carrying member comprises
15 a substrate, and a conductive coat layer that covers the surface of the substrate, and the conductive coat layer contains at least a binder resin and conductive spherical particles having a number average particle diameter of from 0.3 μm to 30 μm and a true density of
20 3 g/cm³ or below, dispersed in the binder resin.

47. The process cartridge according to claim 46, which further comprises a developer layer thickness control member for forming a thin layer of the developer on said developer carrying member.

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48. The process cartridge according to claim

~~102~~ wherein said developer layer thickness control member is a magnetic control blade.

5 ~~102~~ ~~104~~ ~~49.~~ The process cartridge according to claim ~~47.~~ wherein said developer layer thickness control member is elastically brought into pressure touch with said developer carrying member through said developer.

10 ~~104~~ ~~105~~ ~~50.~~ The process cartridge according to claim ~~49.~~ wherein said developer layer thickness control member is an elastic control member.

15 ~~101~~ ~~107~~ ~~51.~~ The process cartridge according to claim ~~46.~~ wherein said developer is a magnetic one component type developer comprising a magnetic toner.

20 ~~101~~ ~~108~~ ~~52.~~ The process cartridge according to claim ~~46.~~ wherein said developer is a non-magnetic one component type developer comprising a non-magnetic toner.

25 ~~101~~ ~~109~~ ~~53.~~ The process cartridge according to claim ~~46.~~ wherein said developer is a two component type developer comprising a toner and a carrier.

~~101~~ ~~110~~ ~~54.~~ The process cartridge according to claim ~~46.~~ wherein said latent image bearing member is an

electrophotographic photosensitive member.

and all 55. The process cartridge according to claim
46, which further comprises at least one of a cleaning
5 means and a primary charging means, joined into one
unit as the cartridge in addition to said latent image
bearing member and said primary charging member; said
latent image bearing member comprising an
electrophotographic photosensitive member.

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56. The process cartridge according to claim
46, wherein said developer carrying member is the
developer carrying member according to any one of
claims 2 to 24.

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and all

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